STATISTICS REPORT

1988 - 89

ALBERTA

LABOUR
Employment Pensions Branch

90-04160/

TABLE OF CONTENTS

	Page
Introduction	1
The Employment Pensions Branch	3
Roles and Responsibilities	3
Regulation of Plans	4
Plans Supervised by the Branch	8
Plan Funds	8
Plan Information	10
Funding and Solvency	17
Actuarial Assumptions	28
Appendix	37

INTRODUCTION

This is the first annual statistical report on the status of pension plans supervised by the Employment Pensions Branch. It is intended that the report provide the reader with some insight into certain features of the private pension system in Alberta.

The report is divided into two Sections. Section A provides a brief description of the programs of the Employment Pensions Branch and an overview of branch activity historically and over the past year specifically. Section B examines the plans registered with the branch and covers such areas as plan membership and types of plans. Features such as vesting, funding and solvency, and actuarial assumptions being used in defined benefit plans are also covered in Section B.

The structure of the report is a combination of commentary and tables and graphs, with some additional tables appended at the end of the report.

The information presented is based on the data received from plan sponsors and tabulated by the branch. The data used is as of March 31, 1989.

A. THE EMPLOYMENT PENSIONS BRANCH

1. ROLES AND RESPONSIBILITIES

ADMINISTRATION OF THE ACT

The Employment Pensions Branch of Alberta Labour is responsible for the administration and enforcement of the Employment Pension Plans Act, which came into force on January 1, 1987, replacing the Pension Benefits Act which was effective January 1, 1967. The principal objective of the Act is to safeguard employee entitlements to benefits promised under private sector pension plans.

With the exception of certain exempted pension plans identified under section 41(1) of the Employment Pension Plans Regulation, the Act requires that every pension plan covering employees in Alberta be registered with the branch in order to ensure that each plan complies with the terms and conditions of the Act throughout its' lifetime.

In accordance with the Act, the branch may refuse to register pension plans that do not qualify and may cancel Certificates of Registration previously issued. Branch staff monitor pension plans to ensure that they are administered correctly and that pension plan funds are sufficient to cover earned benefits.

RECIPROCAL AGREEMENTS

As authorized by section 3 of the Employment Pension Plans Act, the Alberta government is a party to two agreements, one with the Government of Canada, and one with those other provinces which have legislation similar to Alberta's Act. Both agreements provide for the reciprocal registration, audit and inspection of pension plans. Under these agreements, a pension plan subject to the legislation of more than one authority is supervised by that authority having jurisdiction over the greatest number of plan members. This means that the branch carries out the duties and responsibilities of other pension jurisdictions in cases where reciprocal agreements apply, including the administration of the legislation of those other jurisdictions.

THE LABOUR CODE

The branch is also the repository for trust agreements relative to employee benefit plans filed under section 154 of the Labour Relations Code. Filed trust agreements and amendments are reviewed for possible inadequacies or inconsistencies with regard to the intent and purpose of the agreement.

With respect to trust agreements that have been authorized or sanctioned by a collective agreement and filed with the Minister of Labour, section 154 of the Labour Relations Code provides that a trustee is not personally liable for his or her actions as a trustee, unless it can be proven that the trustee failed to act honestly or did not act in accordance with the purpose and intent of the trust agreement.

2. REGULATION OF PLANS

PLANS SUPERVISED

As of March 31, 1989, the branch was responsible for the supervision of 1 744 pension plans, 1 635 of which had received registered status, and 109 of which had been reviewed and were awaiting further documentation before being registered under the Employment Pension Plans Act. These plans covered a total of 274 619 active plan members, and 77 206 former members entitled to benefits.

Except as otherwise noted, Tables I and II, on page 6, provide an overview of branch activity from its' inception in 1967 to March 31, 1989. The first column in each table provides totals up to the previous fiscal year under review and column three provides the total to the end of the 1988-89 fiscal year.

Graphs 1 and 2, on page 7, chart branch activity from January 1, 1967 to March 31, 1989 in terms of plans approved and discontinued (Graph 1), and plans supervised (Graph 2). As can be seen, peak periods for both approval of plans and plans supervised were in 1968, when existing plans were registered, and in 1986 when there were a large number of plans filed which related solely to significant shareholders. Discontinuances peaked in 1971 and have remained relatively constant since, with a slight increase occurring in recent years. This recent increase in the number of plan discontinuances relates mostly to the discontinuance of plans for significant shareholders.

REGISTRATIONS

As outlined in Table I, there were 211 new pension plans examined during the 1988-89 fiscal year. Of these, 207 plans were actually registered. Four plans were examined for registration, but the plan sponsors decided not to proceed with establishing the plans.

TRANSFERS

Under reciprocal agreements entered into with other governments, 3 plans were transferred to Alberta and 4 were transferred from Alberta to other jurisdictions.

DISCONTINUANCES

There were 338 pension plans that were discontinued and had their Certificates of Registration cancelled during the year under review. These discontinued plans covered 5 437 members. Of these, 18 plans, covering 3 555 members, were discontinued because they merged with other existing pension plans and the members had their benefits transferred to those other registered pension plans. Forty-six plans, covering 312 members, were discontinued because the company was dissolved or because of financial problems. There were 208 discontinued plans, covering 1 318 members, which were replaced by registered retirement savings plans, and 42 plans discontinued because the last member had terminated or retired. Three plans, covering only 5 members, were discontinued by the branch for non-compliance with the Employment Pension Plans Act. Table II outlines the reasons for discontinuance and shows the member breakdown.

OTHER ACTIVITIES

The branch also approved 1 329 amendments to registered pension plans during the fiscal year. This increase in amendments was largely due to plan changes required to bring them into compliance with the Employment Pension Plans Act. There were 1 969 Annual Information Returns and 204 Cost Certificates reviewed and accepted for purposes of the Act.

Table I

Regulatory Activities of the Branch for the Year Ended March 31, 1989

	Total at March 31, 1988 *	Change During Year	Total at March 31, 1989 *
Plans Examined	4 383	211	4 594
Plans Approved for Registration	4 282	207	4 489
Plans Transferred to Alberta Supervision	158	3	161
Plans Transferred from Alberta Supervision	167	4	171
Plans Discontinued (Registration Cancelled)	2 611	338	2 949
Amendments to "Approved" Plans	13 187	1 329	14 516
Annual Information Returns **	28 892	1 969	30 861
Cost Certificates ***	9 190	204	9 394

* These columns show totals since January 1, 1967.

** An Annual Information Return is submitted in respect of every pension plan and provides data regarding contributions to the plan, plan membership, terminations and retirements.

*** A Cost Certificate is submitted for each pension plan with a defined benefit provision on at least a triennial basis or when plan changes affecting the funding and solvency of the plan occur. The Cost Certificate provides data regarding the liabilities and assets of the plan and describes the contributions required to fund the benefits provided under the plan.

Table II

Reasons for Discontinuance of Pension Plans Supervised by the Branch for the Year Ended March 31, 1989

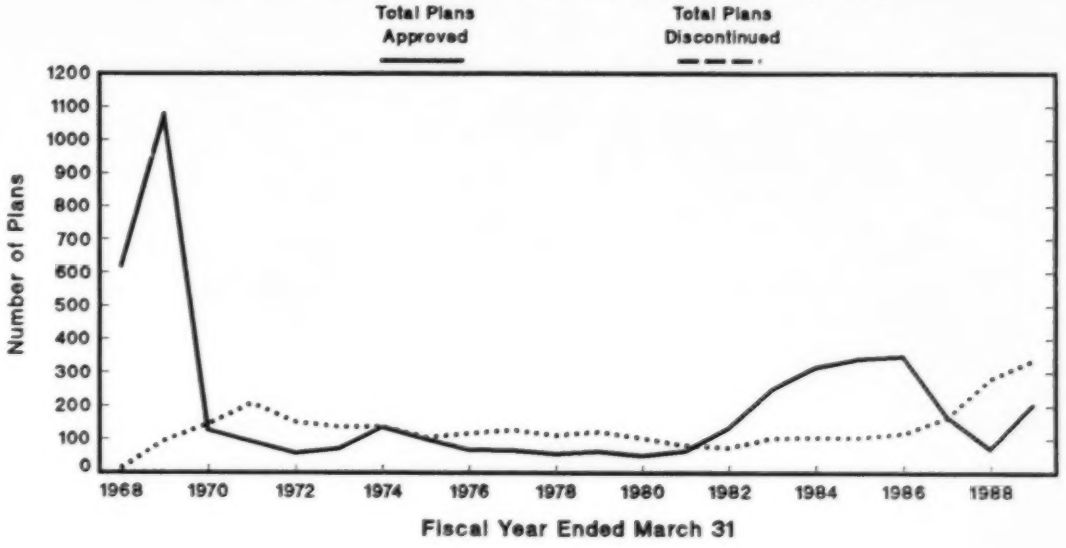
Reason for Discontinuance	Total at March 31, 1988 *	Change During Year	Total at March 31, 1989 *	Total Active Members Affected During 1988-89 Year
No Reason Given - Employer's Request	644	21	665	147
Replaced by New Plans	501	18	519	3 555
No Members Left in Plan	372	42	414	100
Non-Approval by Revenue Canada, Taxation	288	0	288	0
Company Dissolved	254	33	287	201
Financial Problems	246	13	259	111
Non-Compliance	55	3	58	5
Not Required to Register and Duplicate Registration	32	0	32	0
Replaced by RRSPS **	219	208	427	1 318
Total	**2 611**	**338**	**2 949**	**5 437**

* These columns show totals since 1967, except as indicated.

** Totals as at March 31, 1988 and 1989 represent totals since April 1, 1987.

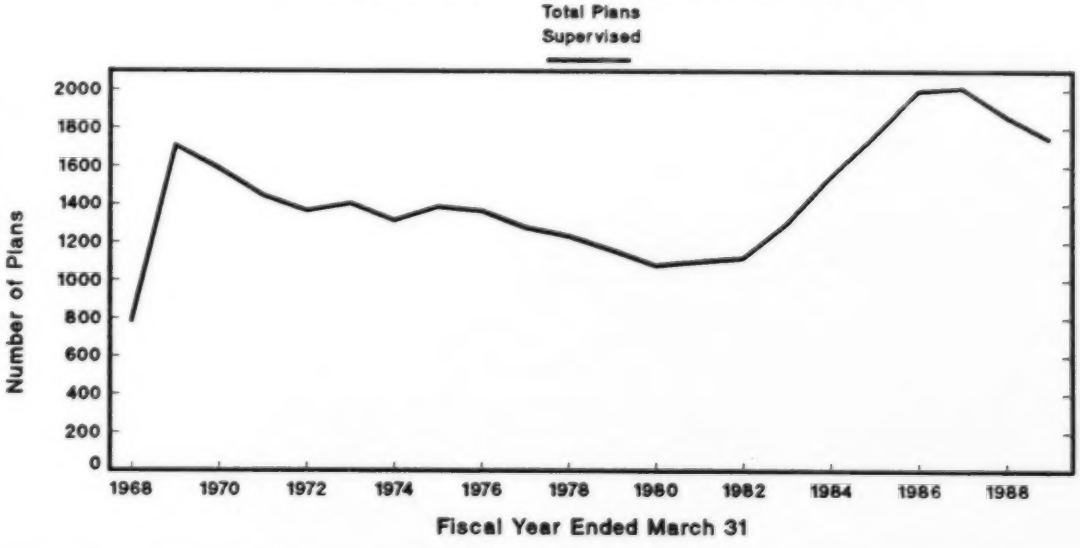
Graph 1

Plans Registered and Discontinued by the Branch During the Period Jan. 1, 1967 to Mar. 31, 1989



Graph 2

Plans Supervised by the Branch During the Period Jan. 1, 1967 to Mar. 31, 1989



B. PLANS SUPERVISED BY THE BRANCH

1. PLAN FUNDS

Tables III and IV, on page 9, deal with monies going into and out of pension plans during the 1988-89 fiscal year. Table III outlines the contributions made during the year, and Table IV outlines surplus refunds consented to during the year under review and provides a historical overview of surplus refunds from 1982 onward.

CONTRIBUTIONS

The total amount required to be contributed to plans in the 1988-89 year, was $392 million. This amount included employee required contributions, employee voluntary contributions, employer current service contributions and employer special payments. Approximately $118 million in required employer current service contributions were offset by the use of existing surplus assets. This $118 million represented about 36 percent of required employer current service contributions. About $274 million was actually contributed to pension plans during the year under review.

Employee required contributions amounted to about $42.7 million, with an additional $7.3 million being contributed as employee voluntary contributions. This compares with employee required contributions of about $49.7 million and voluntary contributions of about $14.5 million in the 1985-86 fiscal year.

The remaining $224 million in actual contributions were employer contributions for current service and special payments. This compares to actual employer contributions totalling $213 million in the 1985-86 fiscal year.

SURPLUS REFUNDS

Surplus monies amounting to $9.3 million were refunded by trustees of pension plans to plan sponsors. Of this, $7.6 million went to two plan sponsors as ongoing surplus refunds, and $1.7 million went to 35 employers on termination of their pension plans. An additional $1.1 million in surplus was provided to pension plan members on termination of their pension plans in the form of additional benefits. Table IV outlines the amounts refunded in 1989 and shows the level of surplus refund activity from April 1, 1982, to December 31, 1986 and then from January 1, 1987 to March 31, 1989.

Table III

Contributions to Plans Supervised by the Branch For the Year Ended March 31, 1989

EMPLOYEE CONTRIBUTIONS			
Required		$ 42 745 250	
Voluntary		7 304 644	
TOTAL		$ 50 049 894	$ 50 049 894
EMPLOYER CONTRIBUTIONS			
Current Service	$324 123 658		
Less Surplus Assets Used	118 268 349		
Net Current Service	205 855 309	$205 855 309	
Unfunded Liabilities	16 227 374		
Solvency Deficiencies	1 421 688		
Net Other Payments	17 649 062	17 649 062	
TOTAL		$223 504 371	$223 504 371
TOTAL EMPLOYER AND EMPLOYEE CONTRIBUTIONS			$273 554 265

Table IV

Surplus Refunds From Plans Supervised by the Branch For the Year Ended March 31, 1989

	# Of Plans	To Employers	To Employees	Total
Ongoing	2	$ 7 624 713	$ -0-	$ 7 624 713
Termination	35	1 700 645	1 110 718	2 825 774
TOTAL	37	$9 325 358	$1 110 718	$10 451 487

During the Period April 1, 1982 to March 31, 1989

	April 1, 1982 to December 31, 1986		January 1, 1987 to March 31, 1989	
	# Of Plans	$ Million	# Of Plans	$ Million
Ongoing	72	218.0	7	8.8
Termination	63	6.2	42	12.6
TOTAL	135	224.2	49	21.4

2. PLAN INFORMATION

ACTIVE MEMBERS

The 1 744 pension plans supervised by the branch covered 274 619 active members. Four of these plans, or 0.23 percent of plans registered, covered 52 percent of all active plan members. Two of these 4 plans were multi-employer negotiated plans covering 131 442 members, or 48 percent of all active members. On the other hand, 60 percent of the plans supervised by the branch covered only 1 percent of all active members. The bulk of these plans were one to three person shareholder and executive pension plans.

Outside of these two extremes, the majority of plans covered between 11 and 400 active members, with the average active membership being about 70 members. Table V, on page 12, provides a full breakdown of plans by membership size.

JURISDICTIONS

Table VI, on page 13, lists the number of plans that had active members in each jurisdiction. It should be noted that there is some overlap of plans as some plans had members in several jurisdictions. Forty-six percent of active members were employed in Alberta, and 24 percent were employed in British Columbia. The remaining 30 percent, were employed in the various other provinces and territories and some locations outside Canada. This table also illustrates the breakdown of membership by jurisdiction.

BENEFIT TYPE

Defined contribution plans accounted for 68 percent of the pension plans registered with the branch, however these plans covered only 8 percent of active members. Flat benefit plans represented only 4 percent of the total plans registered, but they covered 62 percent of active members. Again these two extremes can be accounted for by the fact that the majority of defined contribution plans were shareholder and executive pension plans or plans for small employers, and the flat benefit plans were almost all large multi-employer plans.

Table VII, on page 14, provides data on benefit types both from the view of percentage of plans and active membership. Excluding the two extremes noted above, we can see that the most common plan for an average size employer was the defined benefit plan, and that majority of the active members of these plans were covered by average best earnings plans.

FORMER MEMBERS

As of March 31, 1989, there were 77 206 former members of pension plans with defined benefit provisions who were entitled to benefits from pension plans under which they had ceased active participation. Of these, 34 420 were pensioners or beneficiaries who were receiving benefits from the plan, and 42 786 were vested former members entitled to benefits at retirement. The average number of pensioners and vested former members per plan was approximately 13 and 16 respectively. Table VIII, on page 15, illustrates membership status by plan type. Defined contribution plans were assumed to have only active members, as these plans never provide pension payments from the plan and no data is available regarding the number of former members still entitled to benefits under these plans.

VESTING

Of the 1 635 plans approved for registration as of March 31, 1989, 49 percent had the Act minimum, of 5 years of employment, as their vesting rule. These plans covered 94 percent of active members. The remaining 6 percent of active members, covered by 51 percent of plans registered, were vested between 0 and 4 years of service, with the majority, or one third, of these members being vested after 2 years of service. Table IX, on page 16, illustrates the vesting provisions of plans registered, in terms of both number of plans and number of members.

Table V

Active Membership of Plans Supervised by the Branch For the Year Ended March 31, 1989

Member Range	# of Plans	# of Members	Average Members Per Plan
0 - 10	1 053	3 115	3
11 - 15	111	1 440	13
16 - 20	79	1 382	17
21 - 50	178	5 828	33
51 - 100	110	7 960	72
101 - 200	91	12 262	135
201 - 300	31	7 442	240
301 - 400	24	8 148	340
401 - 500	13	5 819	448
501 - 600	2	1 124	562
601 - 1000	18	13 724	762
1001 - 2000	18	24 565	1 365
2001 - 3000	8	22 168	2 771
3001 - 4000	3	10 801	3 600
4001 - 5000	1	4 812	4 812
5001 and over	4	144 029	36 000
Totals	**1 744**	**274 619**	**157**

Table VI

Active Membership by Jurisdiction for Plans Supervised by the Branch as of March 31, 1989

Jurisdiction	# of Plans	# of Members
ALBERTA	1 694	125 774
British Columbia	207	66 183
Quebec	44	35 440
Ontario	114	24 441
Manitoba	91	11 809
Saskatchewan	165	8 239
Nova Scotia	35	1 648
Yukon & Northwest Territories	21	275
New Brunswick	18	275
Newfoundland	27	249
Prince Edward Island	4	11
Outside Canada	29	275

Percentage of Members

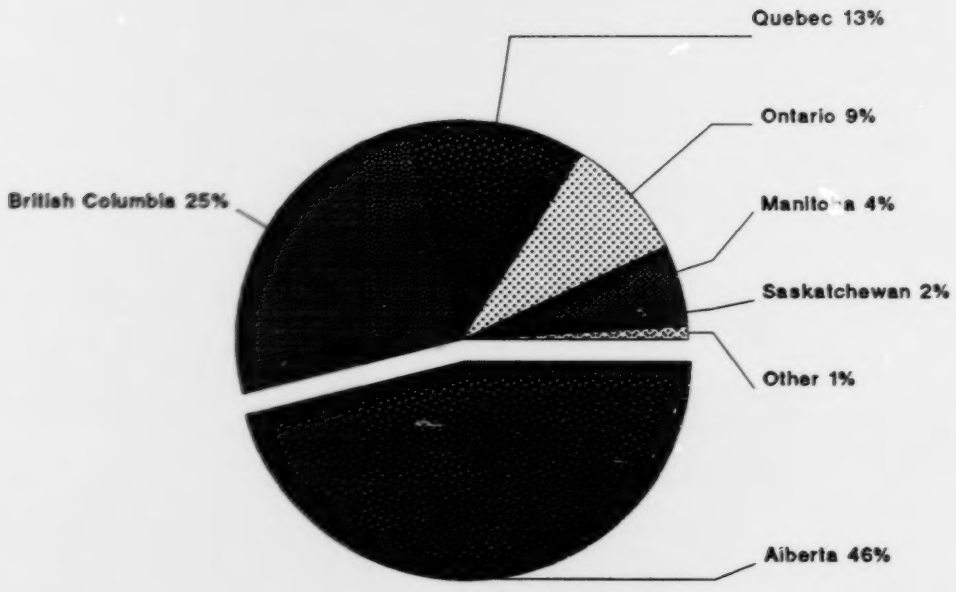
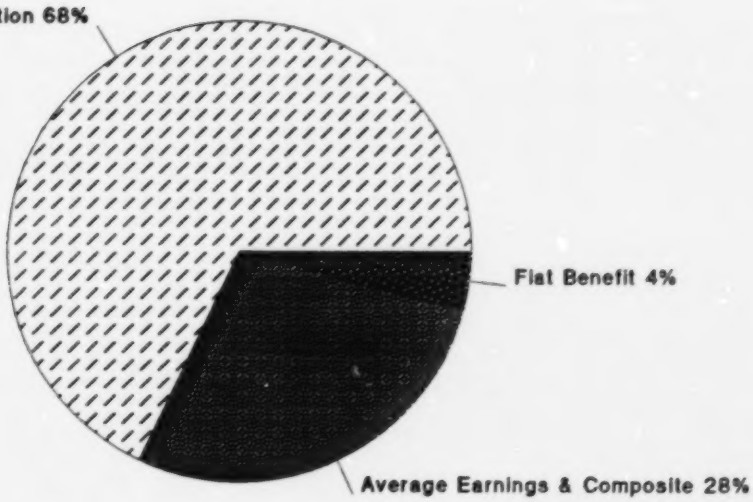


Table VII

Benefit Types for Plans Supervised by the Branch as of March 31,1989

As a Percentage of Plans



As a Percentage of Active Members Covered

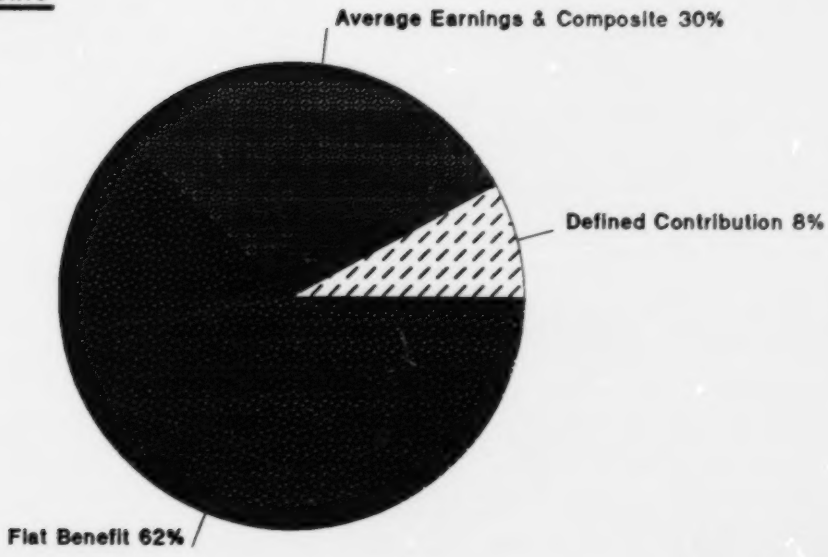


Table VIII

Membership Status by Plan Type for Plans Supervised by the Branch as of March 31, 1989

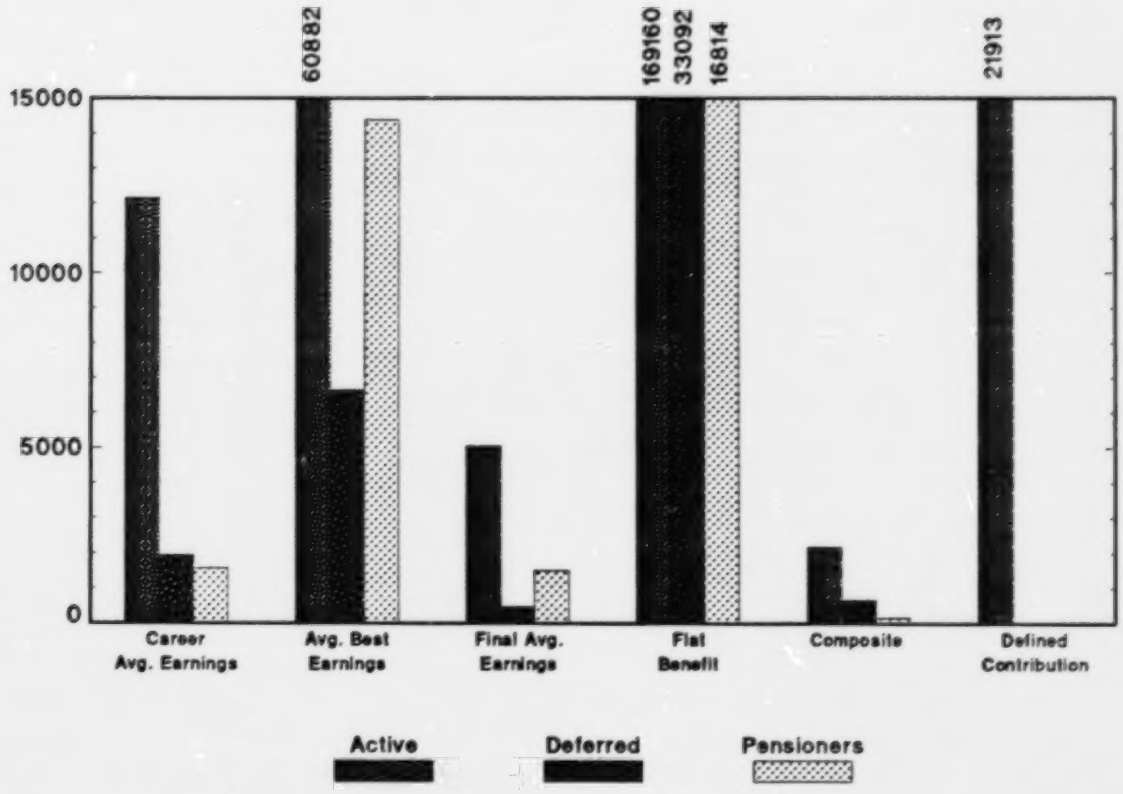
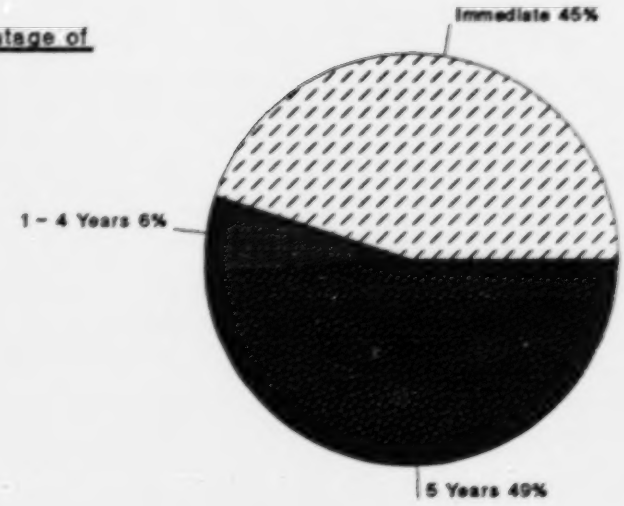


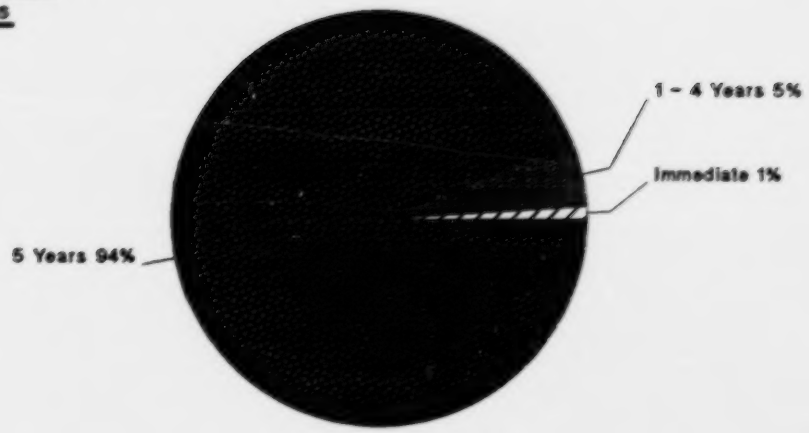
Table IX

Vesting Provisions for Plans Supervised by the Branch as of March 31, 1989

As a Percentage of Plans



As a Percentage of Active Members



3. FUNDING AND SOLVENCY

ASSETS

The market value of the assets of the pension plans registered with the branch as of March 31, 1989 was just over $6 billion. Of this, about $348 million was attributable to defined contribution plans and $5.7 billion was attributable to defined benefit plans.

This amounted to approximately $15 875 for each member of a defined contribution plan and $17 473 for each member and former member of a defined benefit plan.

The average assets per plan were almost $312 000 for defined contribution plans and $11 million for defined benefit plans. As can be seen from Table X, on page 20, while the average assets per plan differs significantly from defined contribution to defined benefit, the difference in average assets per member is negligible. Again this can be explained by the two extremes, the few large defined benefit plans versus the large number of one or two person defined contribution plans. The latter case in particular, where individuals are contributing the maximum tax deductible amount each year, has had an effect on the average assets per member for defined contribution plans.

Table X gives a breakdown of total assets and average assets by plan type. It should be noted that this table and Table XI, on page 21, exclude the 109 plans, covering 3 308 members, which had been reviewed but were awaiting further documentation. The tables do, however, include those newly registered plans which had no assets and no liabilities.

The remainder of the report commentary relates solely to plans which have defined benefit provisions, hereinafter referred to as defined benefit plans.

LIABILITIES

The going concern liabilities for defined benefit plans totalled about $5.7 billion as of March 31, 1989. This amounted to an average of $11 million per plan and $17 322 per member. This compares with total termination liabilities of approximately $4.3 billion, an average per plan of about $8.3 million, and an average of $13 140 per member. It should be noted that termination liabilities have been somewhat overstated. The reason for this is that plans which a have solvency ratio greater than one do not show the amount of termination liabilities when their cost certificates are filed. In these cases termination liabilities have been assumed to be equal to the lesser of going concern liabilities and the market value of plan assets. Table XI provides specifics on liabilities per plan type on both ongoing and termination bases.

In comparing assets with liabilities it can be seen that on average, Alberta registered plans are fully funded on both a going concern and termination basis, however individual plans may differ significantly from the norm. The most notable exception to this is the going concern funded status of flat benefit plans, where liabilities exceed utilized assets by about $529 million. All multi-employer pension plans are included in this group, and it should be noted that almost all of the deficit relates to the two large multi-employer plans mentioned at the beginning of this report.

UNFUNDED LIABILITIES AND SOLVENCY DEFICIENCIES

There were 178 defined benefit plans, covering 156 619 active members, with unfunded liabilities and 12 plans, covering 51 030 active members, with solvency deficiencies as of March 31, 1989. The total of these two deficits was $714 million, with unfunded liabilities amounting to $697 million and solvency deficiencies amounting to $17 million. The average unfunded liability per active plan member was $4 451.

It is significant to note that $16 million, or over 95 percent of the total solvency deficiencies related to 1 flat benefit multi-employer pension plan. No other multi-employer pension plans had a solvency deficiency. Furthermore, $596 million, or almost 85 percent of the total unfunded liabilities, related to 18 flat benefit plans or 10 percent of the plans with unfunded liabilities. These 18 plans, however covered 91 percent of the active members of defined benefit plans that were less than fully funded on an ongoing basis.

Table XII, on page 22, outlines unfunded liabilities and solvency deficiencies for each defined benefit plan type.

SURPLUS

As of March 31, 1989, 273 defined benefit plans showed an excess of assets over liabilities, or a surplus. These plans had a total of 127 884 members, with 89 941 being active members.

The total surplus was about $560 million and the average surplus per plan was about $2 million . The average amount of surplus for each active and former plan member was $4 377. Table XIII, on page 23, provides further information on plans with surplus assets.

FUNDING AND SOLVENCY RATIOS

Tables XIV and XV, on pages 24 and 25, deal with funding and solvency ratios of defined benefit plans by both plan type and membership. There were 520 plans selected for these tables. Sixty-one of the plans selected were new plans with no assets or liabilities. It is significant to note that while Table XV shows 21 percent of active members being in plans with a solvency ratio of under 1, 96 percent of those members are covered by one large multi-employer pension plan whose solvency ratio is .57.

Sixty-two percent of registered defined benefit plans had a funded ratio of one or better. These plans covered 36 percent of active plan members. Eighty-seven percent of all defined benefit plans had a solvency ratio of one or more, and these plans covered 79 percent of active members. Extracting the multi-employer plans from this, 86 percent of defined benefit plans had a funded ratio of one or more, and 96 percent had a solvency ratio of at least one.

Tables XVI and XVII, on pages 26 and 27, relate specifically to funding and solvency ratios for multi-employer pension plans. There were 28 multi-employer defined benefit pension plans registered with the branch, none of which were new registrations.

Sixty-five percent of multi-employer pension plans had a funded ratio of one or better, however, these plans covered only 14 percent of active members of multi-employer plans. This can be explained by the funded status of the two large multi-employer plans noted at the beginning of this report. Only one multi-employer plan had a solvency ratio of under one, but this plan covered 31 percent of the total active members of multi-employer plans.

For additional figures relating to funding and solvency ratios, please refer to the Appendix. It should be noted that the tables in the Appendix surveyed all 520 defined benefit plans, however, the data outlined does not include the 61 new plans with no assets and liabilities.

Table X

Plan Assets By Plan Type
For Plans Supervised By The Branch
For The Year Ended March 31, 1989

Type of Plan	# of Plans	# of Members		Total Assets		Average Assets Per Plan		Average Assets Per Member	
		Active	Total	Market	Utilized	Market	Utilized	Market	Utilized
Career Average	97	12 151	15 636	342 901 564	330 043 086	3 535 068	3 402 506	21 930	21 108
Average Best	301	60 882	81 909	3 796 177 909	3 657 255 081	12 611 887	12 150 349	46 346	44 650
Final Average	32	5 040	7 009	148 978 715	146 768 899	4 655 585	4 586 528	21 255	20 940
Flat Benefit	69	169 160	219 066	1 382 785 927	1 352 274 273	20 040 376	19 598 178	6 312	6 173
Composite	21	2 165	2 984	35 770 496	35 202 463	1 703 357	1 676 308	11 987	11 797
Sub Total	**520**	**249 398**	**326 604**	**5 706 614 611**	**5 521 543 802**	**10 974 259**	**10 618 353**	**17 473**	**16 906**
Money Purchase	1 115	21 913	21 913	347 877 624	347 877 624	311 998	311 998	15 875	15 875
Total	**1 635**	**271 311**	**348 517**	**6 054 492 235**	**5 869 421 426**	**3 703 053**	**3 589 860**	**17 372**	**16 841**

Table XI

Plan Liabilities By Plan Type
For Plans Supervised By The Branch
For The Year Ended March 31, 1989

Type of Plan	# of Plans	# of Members		Total Liabilites		Average Liabilites Per Plan		Average Liabilites Per Member	
		Active	Total	Ongoing	Termination *	Ongoing	Termination *	Ongoing	Termination *
Career Average	97	12 151	15 636	296 654 361	287 160 050	3 058 292	2 960 413	18 973	18 365
Average Best	301	60 882	81 909	3 319 648 970	3 194 099 269	11 028 734	10 611 625	40 529	38 996
Final Average	32	5 040	7 009	127 096 786	122 485 857	3 971 775	3 827 683	18 133	17 476
Flat Benefit	69	169 160	219 066	1 881 568 426	656 899 287	27 269 108	9 520 280	8 589	2 999
Composite	21	2 165	2 984	32 469 805	30 946 968	1 546 181	1 473 665	10 881	10 371
Sub Total	**520**	**249 398**	**326 604**	**5 657 438 348**	**4 291 591 431**	**10 879 689**	**8 253 060**	**17 322**	**13 140**
Money Purchase	1 115	21 913	21 913	347 877 624	347 877 624	311 998	311 998	15 875	15 875
Total	1 635	271 311	348 517	6 005 315 972	4 639 469 055	3 672 976	2 837 596	17 231	13 312

* Termination liabilities are overstated, as they are assumed to be the lesser of ongoing liabilities and market value of assets for those plans which have a solvency ratio of 1 or more.

Table XII

Unfunded Liabilities And Solvency Deficiencies By Plan Type
For Plans Supervised By The Branch
For The Year Ended March 31, 1989

	UNFUNDED LIABILITIES					SOLVENCY DEFICIENCIES				
Type of Plan	# of Plans	# of Members	Total Liabilities	Average Per Plan	Average Per Member	# of Plans	# of Members	Total Deficiency	Average Per Plan	Average Per Member
Career Average	18	2 532	17 733 148	985 175	7 004	3	193	393 384	131 128	2 038
Average Best	125	10 227	77 605 713	620 846	7 551	6	12	178 414	29 735	14 868
Final Average	11	346	4 510 194	410 018	13 035	0	0	0	0	0
Flat Benefit	18	141 923	595 973 888	33 109 660	4 199	1	50 761	16 049 000	16 049 000	316
Composite	6	1 541	1 327 668	221 278	862	2	64	185 035	92 518	2 891
Total	178	156 619	697 150 611	3 916 516	4 451	12	51 030	16 805 833	1 400 486	329

Note: the number of members in this table represents active members only.

Table XIII

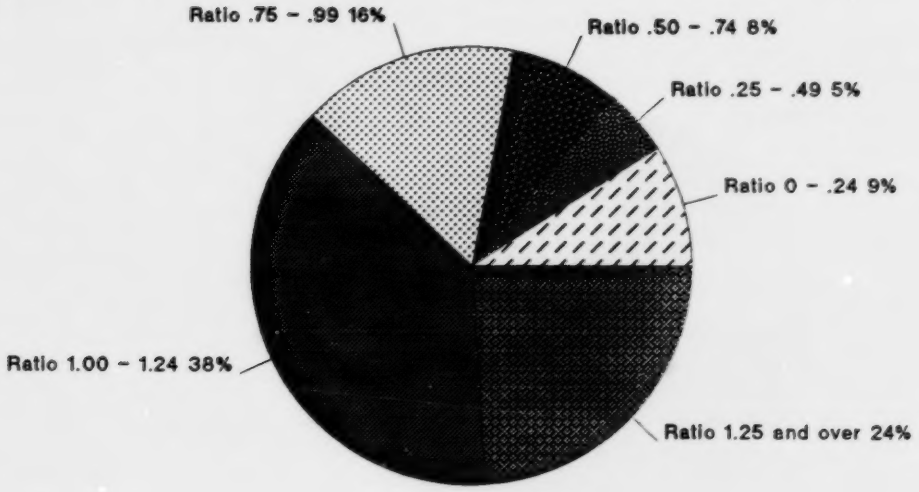
Surplus Assets By Plan Type
For Plans Supervised By The Branch
For The Year Ended March 31, 1989

Type of Plan	# of Plans	# of Members Active	Total	Total Surplus	Average Per Plan	Average Per Member
Career Average	61	8 955	11 668	51 429 018	843 099	4 407
Average Best	141	50 299	68 800	415 676 047	2 948 057	6 042
Final Average	19	4 497	6 417	24 226 467	1 275 077	3 775
Flat Benefit	45	25 743	40 501	64 121 535	1 424 923	1 583
Composite	7	447	498	4 271 812	610 259	8 578
Total	**273**	**89 941**	**127 884**	**559 724 879**	**2 050 274**	**4 377**

Table XIV

Funded Ratio for Plans Supervised by the Branch as of March 31, 1989

As a Percentage of Plans



As a Percentage of Active Members

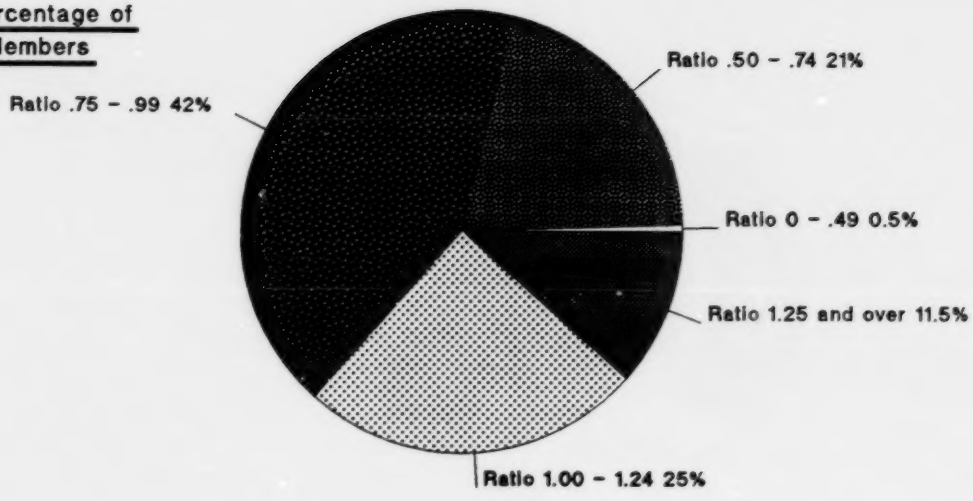
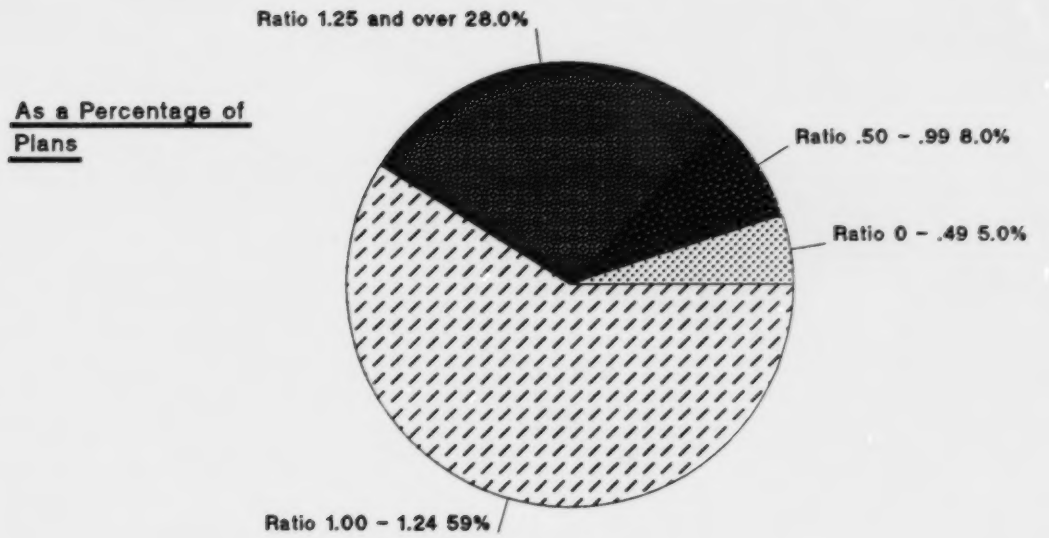


Table XV

Solvency Ratio for Plans Supervised by the Branch as of March 31, 1989



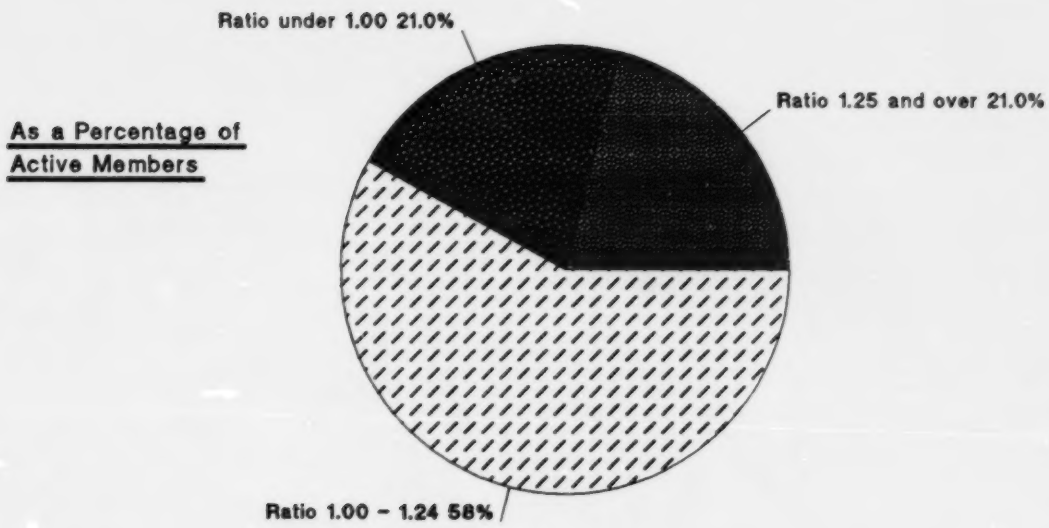
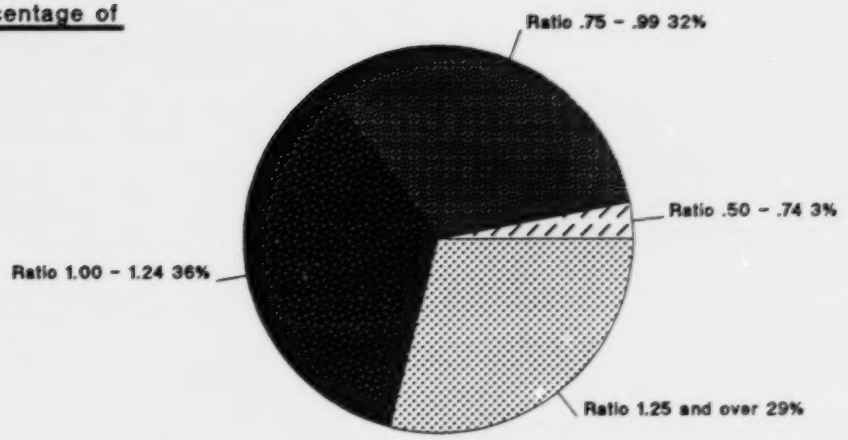


Table XVI

Funded Ratio for Multi-Employer Plans Supervised by the Branch as of March 31, 1989

As a Percentage of Plans



As a Percentage of Active Members

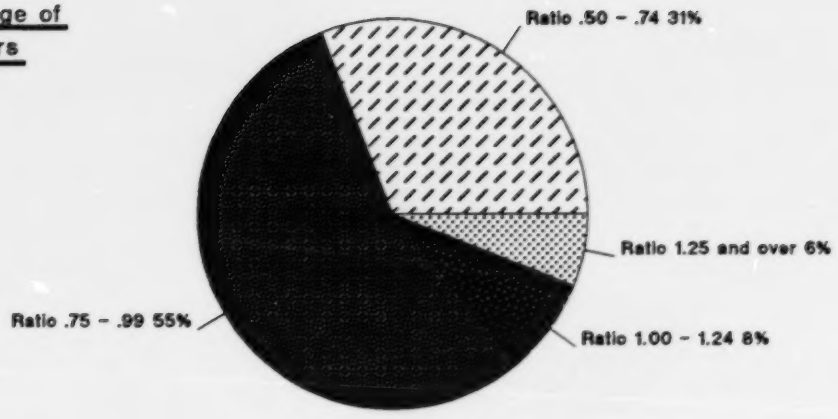
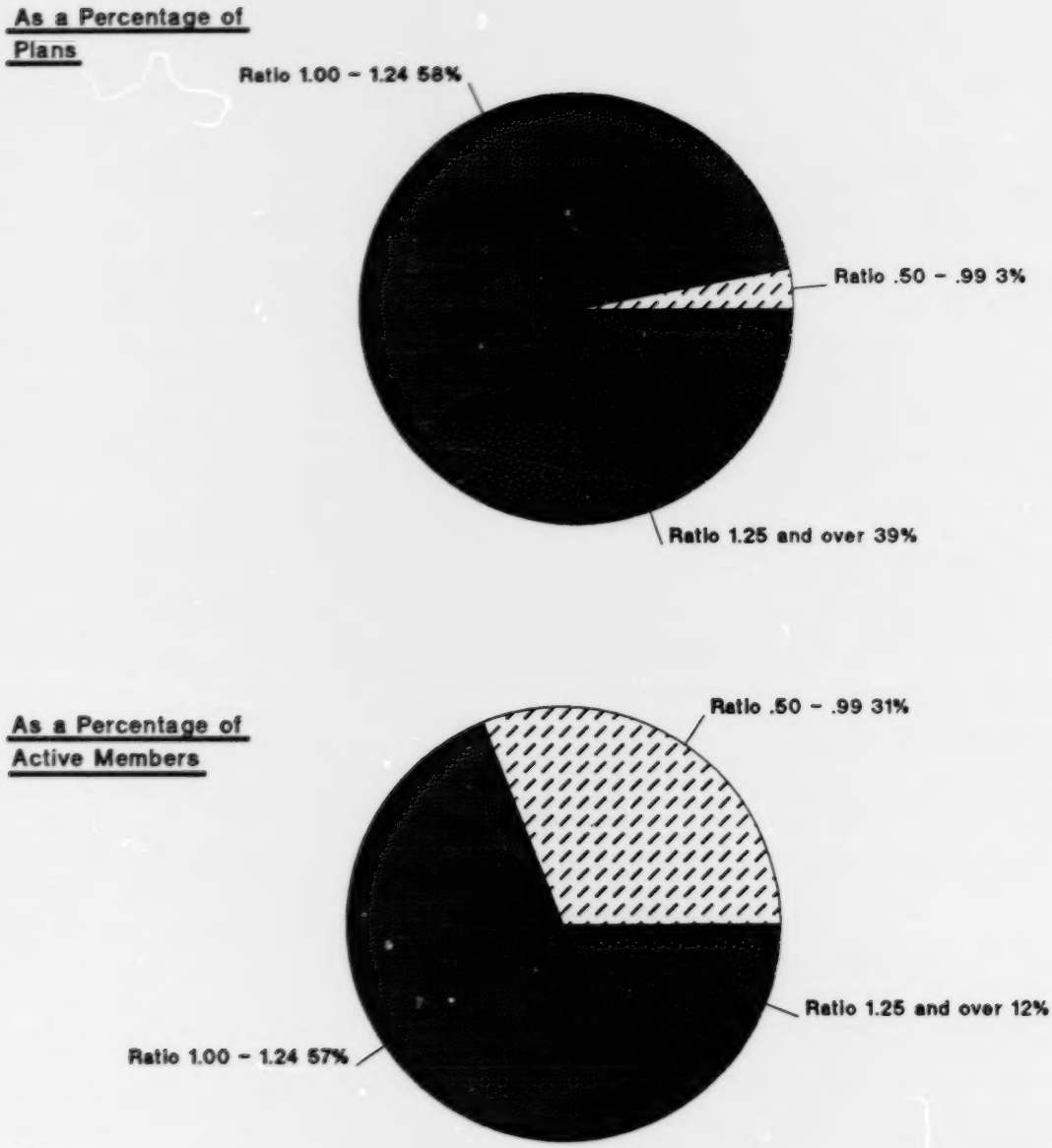


Table XVII

Solvency Ratio for Multi-Employer Plans Supervised by the Branch as of March 31, 1989


As a Percentage of Plans
Ratio 1.00 - 1.24 58%
Ratio .50 - .99 3%
Ratio 1.25 and over 39%
As a Percentage of Active Members
Ratio .50 - .99 31%
Ratio 1.25 and over 12%
Ratio 1.00 - 1.24 57%

4. ACTUARIAL ASSUMPTIONS

Tables XVIII through XXV summarize the actuarial assumptions used for the 520 defined benefit plans supervised by the branch as of March 31, 1989. Twenty-eight of these plans were pending cancellation, 7 plans were guaranteed under group annuity contracts and 1 composite plan had no defined benefits at the time of review.

METHOD OF VALUING LIABILITIES

The most common actuarial valuation method used for determining ongoing plan liabilities was the accrued, or unit credit method, accounting for 72 percent of the defined benefit plans. As can be seen in Table XVIII, on page 30, all but 4 career average plans used this method. The next most common method was the attained age method. The other methods noted in Table XVII were frozen initial liability methods. Table XVII provides a breakdown of methods used on a plan type basis, and as a percentage of plans.

VALUE OF ASSETS

The most popular method used to determine the actuarial value of the assets of a pension plan was based on market value of plan assets. A total of 51 percent of plans used straight market value, with another 19 percent of plans using an adjusted market value. This held true for all plan types except for flat benefit plans, of which 46 percent used book or adjusted book value. Table XIX, on page 31, summarizes utilized values by plan type and as a percentage of plans. The 7 plans using a method noted as other, used either an average of book and market, or valued fixed income investments at book and equities at market value.

MORTALITY TABLES AND WITHDRAWAL RATES

Over one half of defined benefit plans used the 1983 Group Annuity Mortality Table, or some variation of it. As Table XX, on page 32, shows, most of the remaining plans used the 1971 Group Annuity Table or an adjusted version of it. Only 6 percent of the plans surveyed used any other tables. These included 18 plans using sample rates, 11 using the 1951 Group Annuity Table or an adjusted version of it, 4 using the 1965 Group Annuity Table, 1 using the 1963 Group Annuity Table, and 1 using the 1949 Group Annuity Table.

There was an almost even split between those plans using withdrawal rate assumptions and those not, (51 percent versus 49 percent). This even split was also present by type of plan, except in the case of flat benefit plans, where 72 percent of the plans used a withdrawal rate assumption. Table XXI, on page 32, illustrates the withdrawal rate assumptions.

INTEREST AND SALARY ASSUMPTIONS

Table XXII, on page 33, provides a breakdown of the long term or ultimate rate of interest assumption used for the 520 defined benefit plans surveyed. The vast majority, 81 percent, of plans used a long term interest assumption of between 6 and 7.5 percent. There was one plan using an 11.6 percent assumption, however, it should be noted that this was a plan with only retired members which has been given permission to delay winding up until the unfunded liability has been amortized. The remaining 61 plans with an assumption of 8 percent or more were mostly significant shareholder and executive plans. The 4 plans with an assumption of 3 percent or less provided for annual pension increases based on the amount of increase in the Consumer Price Index each year or were composite plans with no defined benefits at this time.

There were 354 of the 520 plans surveyed which required a salary assumption. Table XXIII, on page 34, outlines figures in this regard. The majority of salary assumptions ranged between 5 and 6 percent. A total of 57 plans had a salary assumption of 2 percent or under. These were significant shareholder and executive plans where members were already at the maximum earnings level permitted under the Income Tax Act (Canada) for pension plans.

As shown in Table XXIV, on page 35, 225 plans, or 64 percent, had an interest assumption that exceeded the salary assumption by 1 percent or less. Fifty seven plans had a difference of at least 3 percent between their interest and salary assumptions. The plans with the higher differentials were significant shareholder and executive plans which had some assumption constraints imposed by the Income Tax Act (Canada). Seventy-two plans had a differential of between 1.25 and 2.5 percent, with only 4 of these having over a 2 percent difference. Further details on interest and salary assumptions are provided in the Appendix.

HOURS WORKED ASSUMPTIONS

The final assumption surveyed was that of the average hours worked by a member in a plan year. This assumption was used exclusively by multi-employer flat benefit plans. There were 27 plans which were required to use an hours worked assumption. The average hours worked assumption was 1 233 hours per year per plan member. Table XXV, on page 36, provides a percentage breakdown of the hours worked assumption used.

Table XVIII

Method of Valuing Liabilities Used for Plans Supervised by the Branch as of March 31, 1989

By Plan Type

	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total
Accrued Benefit	93	192	20	54	15	374
Entry Age	0	19	2	12	3	36
Aggregate	2	8	4	1	2	17
Individual Level	0	20	0	0	0	20
Attained Age	2	61	6	2	0	71
Future	0	0	0	0	0	0
Other	0	1	0	0	1	2
Total	97	301	32	69	21	520

As a Percentage of Plans

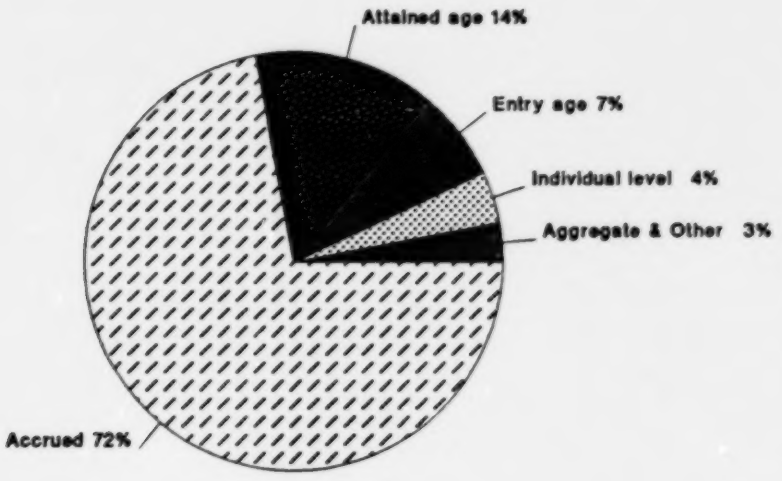


Table XIX

Utilized Value of Assets for Plans Supervised by the Branch as of March 31, 1989

By Plan Type

	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total
Book	21	31	6	24	5	87
Adjusted Book	6	20	2	8	1	37
Market	34	184	16	18	12	264
Adjusted Market	24	48	6	16	3	97
Average of Market	11	14	2	1	0	28
Other	1	4	0	2	0	7
Total	97	301	32	69	21	520

As a Percentage of Plans

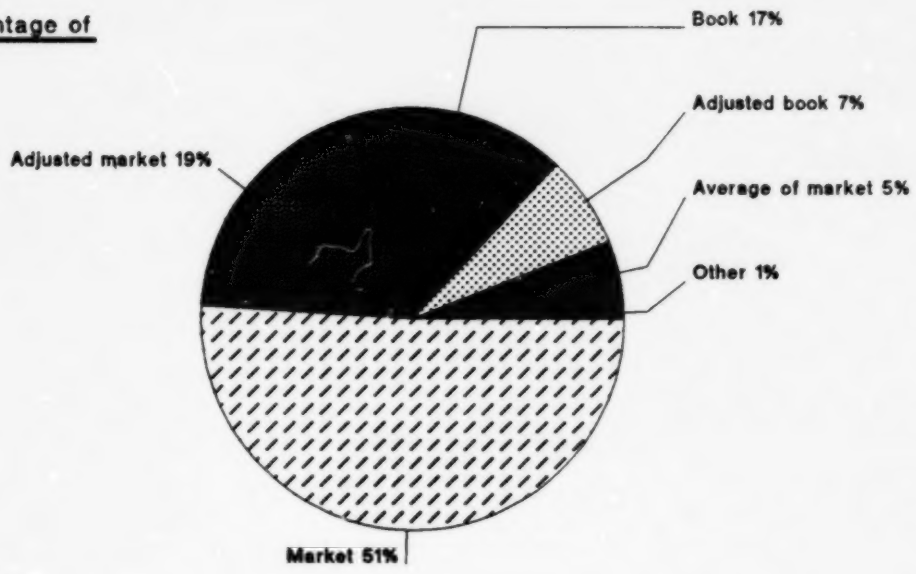


Table XX

Mortality Tables Used for Plans Supervised by the Branch as of March 31, 1989

As a Percentage of Plans

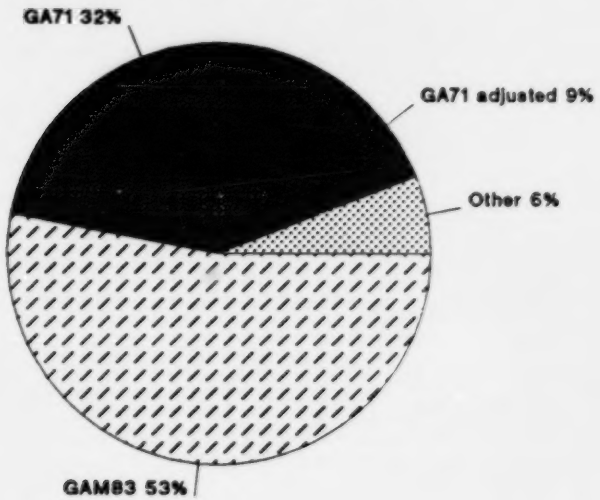


Table XXI

Withdrawal Rate Assumption Usage for Plans Supervised by the Branch as of March 31, 1989

As a Percentage of Plans

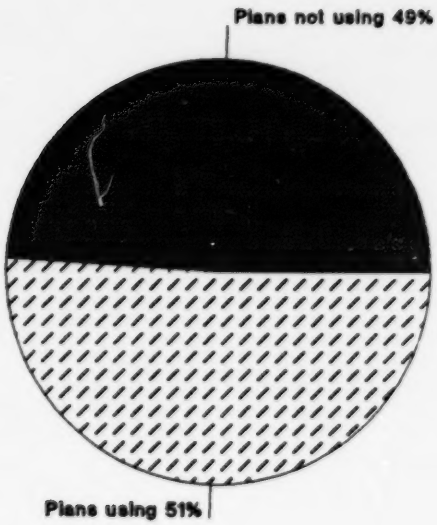


Table XXII

Interest Assumptions Used
For Pension Plans Supervised by the Branch
For the Year Ended March 31, 1989

Rate %	# of Plans
11.0 or over	1
10.5	0
10.0	0
9.5	0
9.0	2
8.5	7
8.0	52
7.5	41
7.0	156
6.5	35
6.0	189
5.5	3
5.0	27
4.5	3
4.0	0
3.5	0
3.0 or under	4
Total	**520**

Table XXIII

Salary Assumptions Used *
For Plans Supervised by the Branch
For the Year Ended March 31, 1989

Rate %	# of Plans
9.5	1
9.0	1
8.5	0
8.0	2
7.5	2
7.0	15
6.5	26
6.0	81
5.5	24
5.0	116
4.5	8
4.0	17
3.5	2
3.0	2
2.5	0
2.0 or under	57
Total	**354**

*** Final Average and Average Best Earnings Plans Only**

Table XXIV

Percentage Difference Between * Interest and Salary Assumptions Used For Plans Supervised by the Branch For the Year Ended March 31, 1989

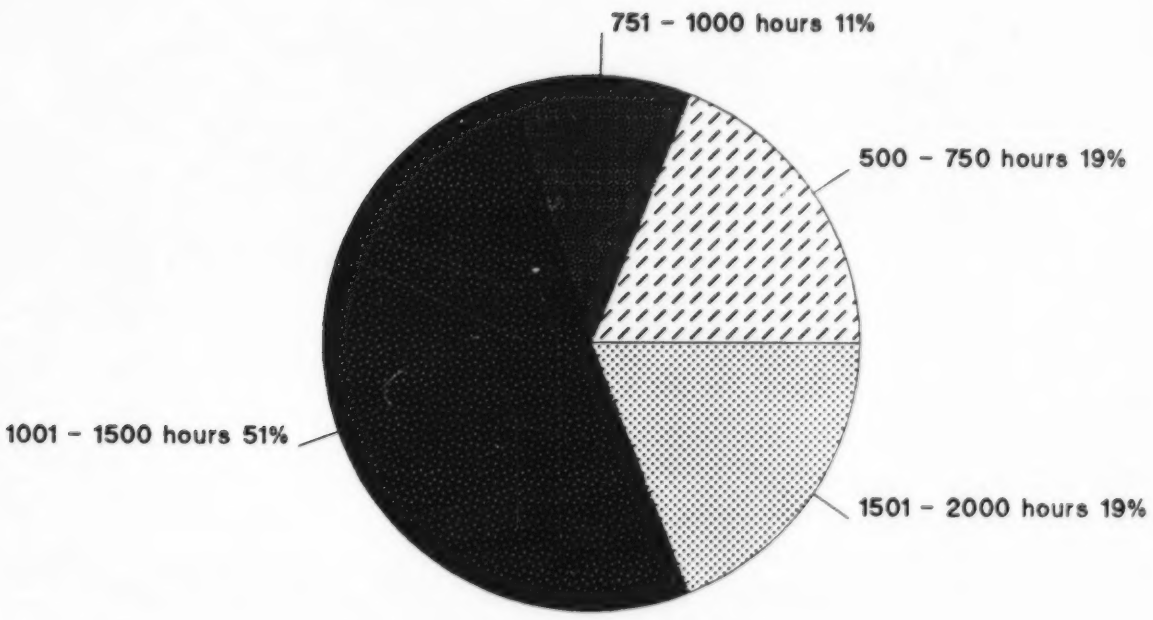
Difference %	# of Plans
3.00 or over	57
2.50	4
2.00	23
1.50	44
1.25	1
1.00	189
0.75	0
0.50	13
0.25	1
0.00	18
- 0.50	1
- 1.00	0
- 1.50	2
- 2.00 or under	1
Total	**354**

*** Final Average and Average Best Earnings Plans Only**

Table XXV

Hours Worked Assumption Used for Multi-Employer Flat Benefit Plans Supervised by the Branch as of March 31, 1989

As a Percentage of Plans



APPENDIX

Table I

Funded Ratio By Type Of Plan

Funded Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Plans	Per Cent
130 +	22	44	8	17	1	92	20.04
125 - 129	4	6	0	5	1	16	3.49
120 - 124	4	9	1	1	0	15	3.27
115 - 119	2	14	2	1	1	20	4.36
110 - 114	9	16	3	7	1	36	7.84
105 - 109	5	22	1	4	1	33	7.19
100 - 104	16	36	3	10	3	68	14.81
95 - 99	6	10	1	5	1	23	5.01
90 - 94	3	14	3	0	3	23	5.01
85 - 89	5	7	1	2	1	16	3.49
80 - 84	2	3	1	2	1	9	1.96
75 - 79	1	3	1	1	0	6	1.31
70 - 74	0	1	0	0	0	1	0.22
65 - 69	1	6	0	1	0	8	1.74
60 - 64	1	4	1	1	1	8	1.74
55 - 59	0	6	0	1	1	8	1.74
50 - 54	1	7	0	2	0	10	2.18
45 - 49	0	5	0	0	0	5	1.09
40 - 44	0	6	0	0	0	6	1.31
35 - 39	0	3	0	1	0	4	0.87
30 - 34	0	2	1	0	0	3	0.65
25 - 29	0	5	0	1	0	6	1.31
20 - 24	0	2	0	0	0	2	0.44
15 - 19	0	3	0	0	0	3	0.65
10 - 14	0	1	0	0	0	1	0.22
5 - 9	0	0	1	0	0	1	0.22
0 - 4	0	34	1	1	0	36	7.84
Total	**82**	**269**	**29**	**63**	**16**	**459**	**100.00**

Table II

Funded Ratio And Plan Membership By Plan Type

Funded Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Members	Per Cent
130 +	4001	10558	764	6612	194	22129	8.98
125 - 129	447	460	0	4833	67	5807	2.36
120 - 124	871	5197	2882	2973	0	11923	4.84
115 - 119	213	3095	83	79	15	3485	1.41
110 - 114	1334	3963	283	7189	65	12834	5.21
105 - 109	677	14919	149	1530	52	17327	7.03
100 - 104	1428	11904	275	2527	58	16192	6.57
95 - 99	899	557	73	2496	720	4745	1.93
90 - 94	262	1542	121	0	727	2652	1.08
85 - 89	335	7531	3	3230	29	11128	4.51
80 - 84	155	58	79	80745	18	81055	32.89
75 - 79	38	3	61	3541	0	3643	1.48
70 - 74	0	1	0	0	0	1	0.00
65 - 69	272	131	0	178	0	581	0.24
60 - 64	152	5	5	27	46	235	0.10
55 - 59	0	7	0	304	55	366	0.15
50 - 54	460	13	0	50791	0	51264	20.80
45 - 49	0	17	0	0	0	17	0.01
40 - 44	0	359	0	0	0	359	0.15
35 - 39	0	3	0	486	0	489	0.20
30 - 34	0	3	1	0	0	4	0.00
25 - 29	0	5	0	1	0	6	0.00
20 - 24	0	2	0	0	0	2	0.00
15 - 19	0	3	0	0	0	3	0.00
10 - 14	0	1	0	0	0	1	0.00
5 - 9	0	0	1	0	0	1	0.00
0 - 4	0	33	2	124	0	159	0.06
Total	**11544**	**60370**	**4782**	**167666**	**2046**	**246408**	**100.00**

Table III

Solvency Ratio By Type Of Plan

Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Plans	Per Cent
130 +	29	55	8	22	2	116	25.27
125 - 129	4	6	1	2	0	13	2.83
120 - 124	5	12	0	4	0	21	4.58
115 - 119	3	15	2	3	1	24	5.23
110 - 114	5	16	5	8	1	35	7.63
105 - 109	7	14	0	3	1	25	5.45
100 - 104	26	102	12	14	8	162	35.29
95 - 99	0	0	0	2	0	2	0.43
90 - 94	0	1	0	1	2	4	0.87
85 - 89	0	2	0	0	0	2	0.43
80 - 84	1	1	0	0	0	2	0.43
75 - 79	0	1	0	0	0	1	0.22
70 - 74	2	2	0	0	0	4	0.87
65 - 69	0	1	0	1	0	2	0.43
60 - 64	0	2	0	0	1	3	0.65
55 - 59	0	0	0	1	0	1	0.22
50 - 54	0	1	0	0	0	1	0.22
45 - 49	0	1	0	0	0	1	0.22
40 - 44	0	0	0	0	0	0	0.00
35 - 39	0	0	0	0	0	0	0.00
30 - 34	0	0	0	1	0	1	0.22
25 - 29	0	1	0	0	0	1	0.22
20 - 24	0	1	0	0	0	1	0.22
15 - 19	0	2	0	0	0	2	0.44
10 - 14	0	0	0	0	0	0	0.00
5 - 9	0	2	0	0	0	2	0.44
0 - 4	0	31	1	1	0	33	7.19
Total	**82**	**269**	**29**	**63**	**16**	**459**	**100.00**

Table IV

Solvency Funded Ratio And Plan Membership By Plan Type

Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Members	Per Cent
130 +	5267	15807	764	21283	261	43382	17.61
125 - 129	307	4193	2882	429	0	7811	3.17
120 - 124	639	2912	0	481	0	4032	1.64
115 - 119	410	12242	83	234	15	12984	5.27
110 - 114	400	6506	573	6215	65	13759	5.58
105 - 109	523	11101	0	603	52	12279	4.98
100 - 104	3375	6959	478	86700	1560	99072	40.21
95 - 99	0	0	0	319	0	319	0.13
90 - 94	0	7	0	30	47	84	0.04
85 - 89	0	6	0	0	0	6	0.00
80 - 84	11	1	0	0	0	12	0.00
75 - 79	0	1	0	0	0	1	0.00
70 - 74	612	355	0	0	0	967	0.39
65 - 69	0	1	0	486	0	487	0.20
60 - 64	0	2	0	0	46	48	0.02
55 - 59	0	0	0	50761	0	50761	20.60
50 - 54	0	1	0	0	0	1	0.00
45 - 49	0	13	0	0	0	13	0.01
40 - 44	0	0	0	0	0	0	0.00
35 - 39	0	0	0	0	0	0	0.00
30 - 34	0	0	0	1	0	1	0.00
25 - 29	0	1	0	0	0	1	0.00
20 - 24	0	1	0	0	0	1	0.00
15 - 19	0	2	0	0	0	2	0.00
10 - 14	0	0	0	0	0	0	0.00
5 - 9	0	229	0	0	0	229	0.09
0 - 4	0	30	2	124	0	156	0.06
Total	**11544**	**60370**	**4782**	**167666**	**2046**	**246408**	**100.00**

Table V

Funded Ratio By Type Of Plan
Multi-Employer Plans Only

Funded Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Plans	Per Cent
130 +	0	0	0	5	0	5	17.86
125 - 129	0	0	0	3	0	3	10.72
120 - 124	0	0	0	1	0	1	3.57
115 - 119	0	0	0	0	0	0	0.00
110 - 114	0	0	0	3	0	3	10.71
105 - 109	0	0	0	3	0	3	10.71
100 - 104	0	0	0	3	0	3	10.71
95 - 99	0	0	0	3	1	4	14.29
90 - 94	0	0	0	0	1	1	3.57
85 - 89	0	1	0	1	0	2	7.15
80 - 84	0	0	0	1	0	1	3.57
75 - 79	0	0	0	1	0	1	3.57
70 - 74	0	0	0	0	0	0	0.00
65 - 69	0	0	0	0	0	0	0.00
60 - 64	0	0	0	0	0	0	0.00
55 - 59	0	0	0	0	0	0	0.00
50 - 54	0	0	0	1	0	1	3.57
45 - 49	0	0	0	0	0	0	0.00
40 - 44	0	0	0	0	0	0	0.00
35 - 39	0	0	0	0	0	0	0.00
30 - 34	0	0	0	0	0	0	0.00
25 - 29	0	0	0	0	0	0	0.00
20 - 24	0	0	0	0	0	0	0.00
15 - 19	0	0	0	0	0	0	0.00
10 - 14	0	0	0	0	0	0	0.00
5 - 9	0	0	0	0	0	0	0.00
0 - 4	0	0	0	0	0	0	0.00
Total	**0**	**1**	**0**	**25**	**2**	**28**	**100.00**

Table VI

Funded Ratio And Plan Membership
By Plan Type
Multi-Employer Plans Only

Funded Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Members	Per Cent
130 +	0	0	0	5330	0	5330	3.24
125 - 129	0	0	0	4650	0	4650	2.83
120 - 124	0	0	0	2973	0	2973	1.81
115 - 119	0	0	0	0	0	0	0.00
110 - 114	0	0	0	6666	0	6666	4.05
105 - 109	0	0	0	1314	0	1314	0.80
100 - 104	0	0	0	2211	0	2211	1.34
95 - 99	0	0	0	2435	720	3155	1.92
90 - 94	0	0	0	0	113	113	0.07
85 - 89	0	75	0	2983	0	3058	1.86
80 - 84	0	0	0	80681	0	80681	49.06
75 - 79	0	0	0	3541	0	3541	2.15
70 - 74	0	0	0	0	0	0	0.00
65 - 69	0	0	0	0	0	0	0.00
60 - 64	0	0	0	0	0	0	0.00
55 - 59	0	0	0	0	0	0	0.00
50 - 54	0	0	0	50761	0	50761	30.87
45 - 49	0	0	0	0	0	0	0.00
40 - 44	0	0	0	0	0	0	0.00
35 - 39	0	0	0	0	0	0	0.00
30 - 34	0	0	0	0	0	0	0.00
25 - 29	0	0	0	0	0	0	0.00
20 - 24	0	0	0	0	0	0	0.00
15 - 19	0	0	0	0	0	0	0.00
10 - 14	0	0	0	0	0	0	0.00
5 - 9	0	0	0	0	0	0	0.00
0 - 4	0	0	0	0	0	0	0.00
Total	**0**	**75**	**0**	**163545**	**833**	**164453**	**100.00**

Table VII

Solvency Ratio By Plan Type
Multi-Employer Plans Only

Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Plans	Per Cent
130 +	0	0	0	11	0	11	39.29
125 - 129	0	0	0	0	0	0	0.00
120 - 124	0	0	0	1	0	1	3.57
115 - 119	0	0	0	1	0	1	3.57
110 - 114	0	0	0	4	0	4	14.29
105 - 109	0	0	0	1	0	1	3.57
100 - 104	0	1	0	6	2	9	32.14
95 - 99	0	0	0	0	0	0	0.00
90 - 94	0	0	0	0	0	0	0.00
85 - 89	0	0	0	0	0	0	0.00
80 - 84	0	0	0	0	0	0	0.00
75 - 79	0	0	0	0	0	0	0.00
70 - 74	0	0	0	0	0	0	0.00
65 - 69	0	0	0	0	0	0	0.00
60 - 64	0	0	0	0	0	0	0.00
55 - 59	0	0	0	1	0	1	3.57
50 - 54	0	0	0	0	0	0	0.00
45 - 49	0	0	0	0	0	0	0.00
40 - 44	0	0	0	0	0	0	0.00
35 - 39	0	0	0	0	0	0	0.00
30 - 34	0	0	0	0	0	0	0.00
25 - 29	0	0	0	0	0	0	0.00
20 - 24	0	0	0	0	0	0	0.00
15 - 19	0	0	0	0	0	0	0.00
10 - 14	0	0	0	0	0	0	0.00
5 - 9	0	0	0	0	0	0	0.00
0 - 4	0	0	0	0	0	0	0.00
Total	**0**	**1**	**0**	**25**	**2**	**28**	**100.00**

Table VIII

Solvency Ratio And Plan Membership
By Plan Type
Multi-Employer Plans Only

Ratio	Career Average	Average Best	Final Average	Flat Benefit	Composite	Total Members	Per Cent
130 +	0	0	0	19948	0	19948	12.13
125 - 129	0	0	0	0	0	0	0.00
120 - 124	0	0	0	321	0	321	0.19
115 - 119	0	0	0	116	0	116	0.07
110 - 114	0	0	0	6063	0	6063	3.69
105 - 109	0	0	0	343	0	343	0.21
100 - 104	0	75	0	85993	833	86901	52.84
95 - 99	0	0	0	0	0	0	0.00
90 - 94	0	0	0	0	0	0	0.00
85 - 89	0	0	0	0	0	0	0.00
80 - 84	0	0	0	0	0	0	0.00
75 - 79	0	0	0	0	0	0	0.00
70 - 74	0	0	0	0	0	0	0.00
65 - 69	0	0	0	0	0	0	0.00
60 - 64	0	0	0	0	0	0	0.00
55 - 59	0	0	0	50761	0	50761	30.87
50 - 54	0	0	0	0	0	0	0.00
45 - 49	0	0	0	0	0	0	0.00
40 - 44	0	0	0	0	0	0	0.00
35 - 39	0	0	0	0	0	0	0.00
30 - 34	0	0	0	0	0	0	0.00
25 - 29	0	0	0	0	0	0	0.00
20 - 24	0	0	0	0	0	0	0.00
15 - 19	0	0	0	0	0	0	0.00
10 - 14	0	0	0	0	0	0	0.00
5 - 9	0	0	0	0	0	0	0.00
0 - 4	0	0	0	0	0	0	0.00
Total	**0**	**75**	**0**	**163545**	**833**	**164453**	**100.00**

Table IX

Number of Plans by Interest-Salary Assumption Differential

Differential	+3.00	2.50	2.00	1.50	1.25	1.00	0.75	0.50	0.25	0.00	-0.50	-1.00	-1.50	-2.00 or lower	Total
Interest															
11.00+	1														1
11.00															0
10.50															0
10.00															0
9.50															0
9.00	1	1													2
8.50		1		1											2
8.00	14	1	7	4		10				1			1		38
7.50	1		1	10		13				1	1				27
7.00	12	1	13	15		54		7		4				1	107
6.50	3		1	7		4		1	1						17
6.00	23		1	6	1	91		3		8			1		134
5.50								2							2
5.00				1		16				1					18
4.50	1					1									2
4.00															0
3.50															0
3.00 or under	1									3					4
Total	57	4	23	44	1	189	0	13	1	18	1	0	2	1	354